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KEVIN G. MIERZWA
ARTZ & ARTZ, P.C.
28333 TELEGRAPH ROAD, SUITE 250
SOUTHFIELD, MI 48034

EXAMINER
BURCH, MELODY M

ART UNIT	PAPER NUMBER
3683	

DATE MAILED: 06/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/707,501	CHEN ET AL.	
	Examiner	Art Unit	
	Melody M. Burch	3683	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 March 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11,13-15,17-29 and 31-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11,13-15,17-29 and 31-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 March 2005* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to because piston 38 is shown in different places in figure 1B and 1C , bore 42 is not shown surrounding the piston in some of the figures, also element number 74 is used to designate both a master cylinder in figure 1 and a precharge actuator in figure 2. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. In addition to Replacement Sheets containing the corrected drawing figure(s), applicant is required to submit a marked-up copy of each Replacement Sheet including annotations indicating the changes made to the previous version. The marked-up copy

must be clearly labeled as "Annotated Marked-up Drawings" and must be presented in the amendment or remarks section that explains the change(s) to the drawings. See 37 CFR 1.121(d). Failure to timely submit the proposed drawing and marked-up copy will result in the abandonment of the application.

Specification

3. The disclosure is objected to because of the following informalities: paragraph [0013] fails to include a reference to figure 1

Appropriate correction is required.

4. The amendment filed 3/23/05 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: the detailed description of the limit of handling point particularly the example of vehicle speed.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 23-29 and 31-34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re: claim 23. The phrase "a second stage" is indefinite since the claim fails to previously recite a first stage.

The remaining claims are indefinite due to their dependency from claim 23.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6474753 to Rieth et al. in view of US Patent 6488109 to Igaki et al.

Re: claim 1. Rieth et al. show in figures 1 and 3 a vehicle braking system inherently having a wheel coupled to a vehicle, a brake disclosed in col. 3 lines 21-22 coupled to the wheel, wherein the wheel includes a friction component disclosed in col. 3 line 22 for inhibiting rotation of the wheel, the brake having a first state wherein the friction component is positioned a first distance from the wheel (before precharging), and a second state or the precharging state disclosed in col. 3 lines 20-24 wherein the friction component is positioned a second distance from the wheel closer than the first distance, the vehicle braking system comprising: a proximity sensor or device that produces element "d" in figure 3 which is one of the inputs into element 15 (also see col. 8 lines 28-32) coupled to the vehicle and sensing an object along a direction of travel of the vehicle and generating a proximity signal therefrom, and a controller 17,20 receiving the proximity signal and generating therefrom a threat of

collision prediction signal, the controller moving the friction component from the first state to the second state as a function of a high threat of collision determined from the threat of collision prediction signal as suggested in col. 8 lines 28-39.

Rieth et al. fail to include the limitation of the movement of the friction component being halted through throttle pedal activation.

Igaki et al. teach in col. 8 lines 9-13 the use of automatic braking or the automatic movement of a friction component being halted through throttle pedal activation.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the system of Reith et al. to have included a means of halting the movement of the friction component upon throttle pedal activation, as taught by Igaki et al., in order to provide a means of reducing the number of unwanted braking maneuvers.

Re: claim 2. Rieth et al. show in figure 3 a vehicle speed sensor or device to produce "Vref" which is one of the inputs into element 15 coupled to the vehicle and sensing a speed of the vehicle and generating a vehicle speed signal therefrom. Also see the disclosure in col. 8 lines 28-32.

Re: claims 3, 4. Reith et al. show in figure 3 a brake pressure sensor or element to produce "ph" which is one of the inputs into element 20 coupled to the vehicle and sensing a current brake pressure and generating a current brake pressure signal therefrom. See col. 7 lines 34-35.

Re: claim 5. Rieth et al. show in figure 3 the threat of collison prediction signal being a function of a closing velocity "d prime" which is one of the inputs into element 15

between the vehicle and the object above a threshold. Also see the disclosure in col. 8 lines 28-32.

Re: claim 6. Reith et al. suggests in col. 8 lines 22-26 the limitation of the friction component moving from the second position to the first position when the brake pedal has not been depressed a predetermined time after the threat of condition signal is generated since it is stated that the precharge (or the movement from a first to a second state) can change as a function of distance (this can include diminishing the precharge or moving back to a first state as the foot moves away from the brake pedal).

9. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rieth et al. in view of Igaki et al. as applied to claim 1 above, and further in view of US Patent 6411204 to Bloomfield et al.

Re: claim 7. Rieth et al., as modified, fail to include the limitaiton of the proximity sensor being a radar, lidar or vision based sensor.

Bloomfield et al. teach in claim 24 the limitation of a proximity sensor being in the form of a radar sensor.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the proximity sensor of Rieth et al., as modified, to have been a radar sensor, as taught by Bloomfield et al., in order to provide a means of determining relative distance.

Re: claims 8, 9. Rieth et al., as modified, fail to include the limitation of the system comprising a warning signal activating in response to the threat of collision signal.

Bloomfield et al. teach in col. 5 lines 63-66 the use of a warning signal comprising a warning light activating in response to a threat of collision signal.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the system of Rieth et al., as modified, to have included a warning signal activating in response to the threat of collision signal, as taught by Bloomfield et al., in order to provide a means of warning the driver of the vehicle of the potential danger.

10. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rieth et al. in view of Igaki et al. as applied to claim 1 above, and further in view of US Patent 4969103 to Maekawa.

Rieth et al., as modified, describe the invention substantially as set forth above including the limitation of a third state (which corresponds to the actual application of the brake with the lining touching the rotor) by way of element 20 as suggested in figure 3, but do not include the limitation of the friction component reaching a third state from a signal indicating that a throttle pedal has been released.

Maekawa teach in col. 4 lines 34-37 the use of a brake control system in which a third state of actual brake application is achieved from detection of a signal indicating that a throttle pedal has been released.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the system of Rieth et al., as modified, to have included movement of the friction component to a third state or brake application from a signal indicating that a throttle pedal has been released, as taught by Maekawa, in order

to provide a means of applying the brakes independent of driver's interaction with the brake pedal to avoid the dangers associated with drivers' delayed reactions.

11. Claims 13, 31, 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rieth et al. in view of Igaki et al. as applied to claims 1 and 23 above, and further in view of US Patent 6543567 to Deluca et al.

Reith et al., as modified, as best understood, fail to include the limitation of inhibiting the second stage pre-charge only if a failure with throttle actuation cannot be determined and Reith et al., as modified, also fail to include the limitation of halting the second stage pre-charge in response to the vehicle near a limit of handling point regardless of an estimated threat.

DeLuca et al. teach in lines 6-11 from the bottom of the abstract the use of a braking system in which the second stage pre-charge is inhibited (by bringing the braking system to a fully disengaged state as disclosed in line 10 from the bottom of the abstract and in lines 62-63 of col. 5) only if a failure or fault with throttle actuation cannot be determined.

DeLuca et al. also teach in the first 6 lines of the abstract the limitation of halting the second stage pre-charge (by remaining in an engaged braking state) is halted in response to the vehicle near a limit of handling point (a vehicle malfunction) regardless of an estimated threat.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the system of Reith et al., as modified, to function, as taught by DeLuca et al., in order to provide a means of improving driving safety.

12. Claim 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rieth et al. in view of Igaki et al. as applied to claim 1 above, and further in view of US Patent 4050746 to Durling.

Rieth et al., as modified, fail to include the limitation of inhibiting the movement of the friction component in response to failure of the vehicle brake system.

Durling teaches in lines 3-5 of the abstract teaches the use of preventing movement into a third state or brake application (particularly in an automatic fashion) in response to failure of the vehicle brake system.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the system of Rieth et al., as modified, to have brake movement inhibiting control, as taught by Durling, in order to improve driver safety by reducing the number of unwanted braking actions.

13. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rieth et al. in view of Igaki et al. and Maekawa as applied to claim 10 above, and further in view of US Patent 6543567 to Deluca et al.

Reith et al., as modified, fail to include the limitation of the controller inhibiting the friction component moving from the first state or the second state to the third state only if a failure with throttle actuation cannot be determined.

DeLuca et al. teach in lines 6-11 from the bottom of the abstract the use of a braking system in which a controller will inhibit the friction component moving into the third state which is brake application (by disengaging the braking system as disclosed in

line 10 from the bottom of the abstract) only if a failure with throttle actuation cannot be determined.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the system of Reith et al., as modified, to function, as taught by DeLuca et al., in order to provide a means of improving driving safety.

14. Claims 15, 21, 23-27, 29, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6474753 to Rieth et al. in view of Maekawa.

Re: claims 15, 23, 24, 29, and 32. Rieth et al. show in figures 1 and 3 a vehicle braking system inherently having a wheel coupled to a vehicle, a brake disclosed in col. 3 lines 21-22 coupled to the wheel, wherein the wheel includes a friction component disclosed in col. 3 line 22 for inhibiting rotation of the wheel, the brake having a first state wherein the friction component is positioned a first distance from the wheel rotor (before precharging), and a second state or the precharging state disclosed in col. 3 lines 20-24 wherein the friction component is positioned a second distance from the wheel rotor closer than the first distance, the brake further including a third state wherein the friction component is positioned a third distance from the wheel rotor (particularly a third distance from the surface of the rotor opposite the friction component), the vehicle braking system comprising: a proximity sensor or device that produces element “d” in figure 3 which is one of the inputs into element 15 (also see col. 8 lines 28-32) coupled to the vehicle and sensing an object along a direction of travel of the vehicle and generating a proximity signal therefrom, Rieth et al. show in figure 3 a vehicle speed sensor or device to produce “Vref” which is one of the inputs into element

15 coupled to the vehicle and sensing a speed of the vehicle and generating a vehicle speed signal therefrom (also see the disclosure in col. 8 lines 28-32) and in figure 3 a brake pressure sensor or element to produce "ph" which is one of the inputs into element 20 coupled to the vehicle and sensing a current brake pressure and generating a current brake pressure signal therefrom (see col. 7 lines 34-35), and a controller 17,20 receiving the proximity signal and generating therefrom a threat of collision prediction signal, the controller moving the friction component from the first state to the second state as a function of a high threat of collision determined from the threat of collision prediction signal as suggested in col. 8 lines 28-39.

Rieth et al., as modified, describe the invention substantially as set forth above including the limitation of a third state (which corresponds to the actual application of the brake with the lining touching the rotor in which the friction component is a third distance from the surface of the wheel rotor opposite the friction component) by way of element 20 as suggested in figure 3, but do not include the limitation of the friction component reaching a third state from a signal indicating that a throttle pedal has been released.

Maekawa teach in col. 4 lines 34-37 the use of a brake control system in which a third state of actual brake application is achieved from detection of a signal indicating that a throttle pedal has been released.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the system of Rieth et al., as modified, to have included movement of the friction component to a third state or brake application from a signal indicating that a throttle pedal has been released, as taught by Maekawa, in order

to provide a means of applying the brakes independent of driver's interaction with the brake pedal to avoid the dangers associated with drivers' delayed reactions.

Re: claim 21. Reith et al. suggests in col. 8 lines 22-26 the limitation of the friction component moving from the second position to the first position when the brake pedal has not been depressed a predetermined time after the threat of condition signal is generated since it is stated that the pre-charge (or the movement from a first to a second state) can change as a function of distance (this can include diminishing the precharge or moving back to a first state as the foot moves away from the brake pedal).

Re: claim 25. Reith et al. suggests in col. 8 lines 22-26 the limitation of the friction component moving from the second position to the first position when the brake pedal has not been depressed a predetermined time after the threat of condition signal is generated since it is stated that the precharge (or the movement from a first to a second state) can change as a function of distance (this can include diminishing the precharge or moving back to a first state as the foot moves away from the brake pedal).

Re: claim 26. Rieth et al. show in figure 3 a vehicle speed sensor or device to produce "Vref" which is one of the inputs into element 15 coupled to the vehicle and sensing a speed of the vehicle and generating a vehicle speed signal therefrom. Also see the disclosure in col. 8 lines 28-32.

Re: claim 27. Reith et al. show in figure 3 a brake pressure sensor or element to produce "ph" which is one of the inputs into element 20 coupled to the vehicle and sensing a current brake pressure and generating a current brake pressure signal therefrom. See col. 7 lines 34-35.

15. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6474753 to Rieth et al. in view of Maekawa as applied to claim 15 above, and further in view of Igaki et al. Rieth et al. fail to include the limitation of the movement of the friction component being halted through throttle pedal activation.

Igaki et al. teach in col. 8 lines 9-13 the use of automatic braking or the automatic movement of a friction component being halted through throttle pedal activation.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the system of Reith et al. to have included a means of halting the movement of the friction component upon throttle pedal activation, as taught by Igaki et al., in order to provide a means of reducing the number of unwanted braking maneuvers.

16. Claims 17, 19, 31, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6474753 to Rieth et al. in view of Maekawa as applied to claims 15 and 23 above, and further in view of Deluca et al. Reith et al., as modified, fail to include the limitation of the controller inhibiting the friction component moving from the first state or the second state to the third state only if a failure with throttle actuation cannot be determined.

DeLuca et al. teach in lines 6-11 from the bottom of the abstract the use of a braking system in which a controller will inhibit the friction component moving into the third state which is brake application (by disengaging the braking system as disclosed in line 10 from the bottom of the abstract) only if a failure with throttle actuation cannot be determined.

DeLuca et al. also teach in the first 6 lines of the abstract the limitation of halting the movement of the friction component (by remaining in an engaged braking state) in response to the vehicle near a limit of handling point (a vehicle malfunction) regardless of an estimated threat .

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the system of Reith et al., as modified, to function, as taught by DeLuca et al., in order to provide a means of improving driving safety.

17. Claims 20 and 34 rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6474753 to Rieth et al. in view of Maekawa as applied to claims 15 and 23 above, and further in view of Durling.

Rieth et al., as modified, fail to include the limitation of inhibiting the movement of the friction component in response to failure of the vehicle brake system.

Durling teaches in lines 3-5 of the abstract teaches the use of preventing movement into a third state or brake application (particularly in an automatic fashion) in response to failure of the vehicle brake system.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the system of Rieth et al., as modified, to have brake movement inhibiting control, as taught by Durling, in order to improve driver safety by reducing the number of unwanted braking actions.

18. Claims 22 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6474753 to Rieth et al. in view of Maekawa as applied to claims 15 and 23 above, and further in view of Bloomfield et al.

Rieth et al., as modified, fail to include the limitation of the proximity sensor being a radar, lidar or vision based sensor.

Bloomfield et al. teach in claim 24 the limitation of a proximity sensor being in the form of a radar sensor.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the proximity sensor of Rieth et al., as modified, to have been a radar sensor, as taught by Bloomfield et al., in order to provide a means of determining relative distance.

Double Patenting

19. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

20. Claim 1 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 13 of U.S. Patent No. 6677855 in view of Rieth et al. and Igaki et al. Both the instant invention and the patent '855 claim a braking system, a friction element moving from a first state to a second state, and a sensor. Patent '855 fails to include the limitation of the sensor being a

proximity sensor, the limitation of a controller receiving a proximity signal to generate a threat of collision prediction signal, and the limitation of movement of the friction component being halted through throttle pedal activation.

Rieth et al. teach in figure 3 the use of a proximity sensor or element that detects distance "d" and the use of a controller 17,20 to generate a threat of collision prediction signal.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Patent '855 to have included a proximity sensor and a controller, as taught by Rieth et al., in order to provide a means of determining a degree of precharging of the brakes.

Igaki et al. teach in col. 8 lines 9-13 the use of automatic braking or the automatic movement of a friction component being halted through throttle pedal activation.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the system of Patent '855 to have included a means of halting the movement of the friction component upon throttle pedal activation, as taught by Igaki et al., in order to provide a means of reducing the number of unwanted braking maneuvers.

21. Claim 23 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 13 of U.S. Patent No. 6677855 in view of Rieth et al. and Igaki et al. Both the instant invention and the patent '855 claim a braking system, a friction element moving from a first state to a second state, and a sensor. Patent '855 fails to include the limitation of the sensor being a

proximity sensor, the limitation of a controller receiving a proximity signal to generate a threat of collision prediction signal, and the limitation of movement of the friction component being halted through throttle pedal activation.

Rieth et al. teach in figure 3 the use of a proximity sensor or element that detects distance "d" and the use of a controller 17,20 to generate a threat of collision prediction signal.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Patent '855 to have included a proximity sensor and a controller, as taught by Rieth et al., in order to provide a means of determining a degree of precharging of the brakes.

Maekawa teach in col. 4 lines 34-37 the use of a brake control system in which a third state of actual brake application is achieved from detection of a signal indicating that a throttle pedal has been released.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the system of Patent '855, as modified, to have included movement of to second state precharging as a function of threat of collision signal and throttle pedal release, in view of the teachings of Maekawa, in order to provide a means of applying the brakes independent of driver's interaction with the brake pedal to avoid the dangers associated with drivers' delayed reactions.

Response to Arguments

22. Applicant's arguments filed 3/23/05 have been fully considered but they are not persuasive.

Re: the rejections using the Maekawa reference. Examiner notes that the third state in the rejections above is the brake application state, however, the third state in the rejections above includes the friction component being spaced a distance from the rotor (particularly, a distance from the surface of the rotor opposite the friction component, as broadly claimed).

Re: the rejections using the Igaki reference. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Examiner notes that it is Rieth, as modified by Igaki, that teaches the claimed invention. Rieth alreadly includes the precharging limitations and Igaki is used solely for the teaching of halting friction component movement through throttle pedal activation. Igaki teaches inhibiting movement of the friction component to the third state when the throttle pedal is activated. Accordingly the rejections have been maintained.

Conclusion

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melody M. Burch whose telephone number is 703-306-4618. The examiner can normally be reached on Monday-Friday (7:30 AM-4:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles A. Marmor can be reached on 703-308-0830. The fax phone

number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

mmb
mmb
May 30, 2005
Melody M. Bunch
5/30/05